

# EXHIBIT 19

**DECLARATION OF IAN A. WAITZ**

I, Ian A. Waitz, hereby state under the penalty of perjury that the following statements are true and accurate to the best of my knowledge, and that I could testify to these matters if called to do so:

1. I am the Vice President for Research of Massachusetts Institute of Technology (“MIT” or the “Institute”), a position I have held since May 2024. The matters addressed herein are based on my personal knowledge or upon information I learned in the course of my duties at MIT, including from others involved in MIT’s institutional research, technology transfer, and finance operations. MIT is a private land-grant university located in Cambridge, MA.

2. I have been a member of MIT’s faculty since 1991. In addition to serving as Vice President for Research, I am currently the Jerome C. Hunsaker Professor of Aeronautics and Astronautics. I previously served MIT as the department head of Aeronautics and Astronautics, Dean of the School of Engineering, and Vice Chancellor for Undergraduate and Graduate Education.

3. In my role as Vice President for Research, I am MIT’s senior research officer and have overall responsibility for research administration and policy at the Institute. I oversee MIT’s Research Administration Services and Research Compliance units. I also oversee more than a dozen interdisciplinary research laboratories and centers at MIT. I report directly to the President of MIT.

4. Research conducted at MIT contributes to innovation in areas critical to national security, economic competitiveness, and the quality of life enjoyed by all Americans. Some of MIT’s main areas of research focus include artificial intelligence (“AI”), cybersecurity, quantum computing, astrophysics, nuclear sciences, advanced manufacturing and materials, biotech, and

health. In recent years, MIT has typically spent as much from its own resources on research as it has received from external sponsors to support research on its campus. For example, in Fiscal Year 2024, MIT conducted approximately \$800 million of research sponsored by government, industry, and foundations on its campus. Approximately \$480 million of this research was sponsored by the federal government. MIT itself spent roughly an additional \$800 million on research from its own resources, including its endowment. This internal investment in research by MIT benefits and complements much of the federally-funded sponsored research on campus, and also decreases the cost of this research to the federal government.

5. MIT's research translates into critical and novel applications and inventions. From 2014 through 2024, MIT has produced more patents than any other single-campus university in the United States. In 2024, 323 utility patents were issued to MIT by the U.S. Patent and Trademark Office. MIT holds approximately 4,000 active U.S. patents. To date, MIT has employed or educated 104 Nobel Prize laureates.

6. MIT's research also translates into innovation that helps drive the U.S. economy. A 2015 study<sup>1</sup> identified more than 30,000 active companies founded by MIT alumni, employing 4.6 million people and generating annual global revenues of \$1.9 trillion. That study's authors noted that these figures were "roughly equivalent to the GDP of the world's 10th largest economy as of 2014."

7. The National Science Foundation ("NSF") has funded MIT campus research in many areas that have produced groundbreaking innovations, demonstrating how consistent federal investment directly fuels American economic growth, global technological leadership, and

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<sup>11</sup> "Entrepreneurship and Innovation at MIT: Continuing Global Growth and Impact," MIT (Dec. 2015), <https://entrepreneurship.mit.edu/wp-content/uploads/MIT-Entrepreneurship-Innovation-Impact-Report-2015.pdf>.

enhances our national security—assuring a safer and more prosperous future for the United States. Many companies are commercializing MIT innovations that arose from NSF funding, including interfaces to control movement of prosthetic limbs; cancer immunotherapies; AI driven supply chain management; cell identification and recovery that advances biologic medicines; gene regulation technologies; software that measures changes in cognitive abilities; 3D printing in manufacturing and assembly plants; and semiconductor technology used in high power and high frequency electronics. Research universities like MIT contribute significantly to innovation and the strength of the U.S. economy, and federal research funding is the key to these benefits.

8. MIT received \$97 million from the NSF in Fiscal Year 2024 (July 1, 2023 – June 30, 2024) for performing campus sponsored research under grants and cooperative agreements, including approximately \$24 million of which consisted of reimbursement of indirect costs. MIT conducts research under 469 grants and 19 cooperative agreements from NSF that are currently active for Fiscal Year 2025. These awards involve 322 unique principal investigators at MIT.

9. MIT currently has approximately \$492 million in active NSF grant and cooperative agreement awards on campus, against which MIT has spent approximately \$281 million through March 31, 2025. When fully implemented, MIT estimates that NSF's proposed cap of 15% for indirect cost recovery would result in a projected \$18 million-dollar loss annually to MIT's planned research budget, assuming Fiscal Year 2024 levels of NSF-funded campus modified total direct cost.

10. MIT has received funding through NSF awards for many decades. MIT submits hundreds of proposals each year to NSF, and many such proposals are currently under review at the agency. MIT forecasts that, in the ordinary course of business, it would receive funding decisions from the NSF on dozens of these proposals within the next two months, with total

potential funding in the tens of millions of dollars. MIT has historically experienced a significant success percentage in securing NSF awards under its proposals.

11. NSF's sudden and unilateral reduction in the indirect cost rate, as announced on May 2, 2025 (the "Rate Cap Policy"), immediately places MIT in an impossible position. If MIT utilizes its negotiated indirect cost rate in its proposals, which it believes it is entitled to do, it runs a serious risk of having its proposals rejected and losing the ability to continue critical research. Alternatively, if MIT accedes to the unilaterally imposed 15% rate for its proposals, it would be committing to conduct research based on a financially unsustainable model.

12. If NSF only awards future grants and cooperative agreements to MIT under pending or future proposals at a 15% indirect cost recovery rate, then MIT would immediately be forced to evaluate whether any particular NSF project could be accepted. Inevitably some, if not all, such projects would not be accepted by MIT due to the Rate Cap Policy. This would lead to harms such as loss of highly-trained personnel; missed career opportunities for researchers and missed learning opportunities for students; lack of scientific progress and slowed pace of discovery; fewer impactful research publications; and other negative effects. These would result in an unfortunate setback to MIT's standing in the worldwide academic and research community.

13. Even temporary uncertainty regarding the continuity of anticipated research funding from NSF and other federal agencies risks the permanent loss of talent from MIT and the U.S. science community in general. Already, some of MIT's top researchers are receiving increased outreach from colleagues at institutions in Europe and other nations that seek to take advantage of reductions in U.S. federal research funding to attract top science minds.

14. MIT negotiates facilities and administrative ("F&A") or "indirect" cost reimbursement rates with the Office of Naval Research ("ONR"), its cognizant federal agency for

such purpose. The on-campus F&A rate for MIT's Fiscal Year 2025 (July 1, 2024 – June 30, 2025) applicable to NSF sponsored awards, as negotiated with ONR in accordance with and under the authority set forth in 2 C.F.R. Part 200, is 59.0%.

15. MIT forecasts direct sponsored research activity in its annual operating budget, and it budgets the associated F&A cost reimbursement, relying on the negotiated F&A rate, to pay for the costs of building, maintaining, operating and renewing research buildings, laboratories and equipment; hazardous materials management; data storage; radiation safety; insurance; administrative systems and services; and compliance with federal, state, and local regulations; and other allowable costs.

16. Each principal investigator at MIT conducting research uses the agreed-upon project budget, as awarded by NSF (and other federal granting agencies), to develop a financial plan for performing each supported research project, many of which span multiple years. This budget typically includes supporting graduate student researchers, postdoctoral researchers, other research staff, equipment, and other research costs. It is on the basis of these project-level budgets in hundreds of individual labs across MIT's campus that individual principal investigators make commitments to hire graduate students, researchers and staff. Those people then derive their education and their livelihoods from this funding. At MIT's campus, there are 1,418 individuals who were partially or fully supported by NSF grant or cooperative agreement awards during the first three quarters of MIT's current fiscal year (from July 1, 2024 through March 31, 2025), including 192 faculty, 571 graduate students, 149 undergraduate students, 209 postdoctoral researchers, 190 research staff, and 107 other staff. This multi-year budgeting process also assumes the availability or possibility of new awards and award renewals at roughly similar terms—and certainly at the negotiated indirect cost rate—as had been previously available.

17. The costs being reimbursed partially through the F&A rate are real costs. The negotiated rate is not speculative, but rather established each year after audit by the federal government of actual costs incurred. These costs still exist and must be covered, even if the F&A reimbursement rate is unilaterally reduced. Approximately two-thirds of F&A costs at MIT are facilities-related, and MIT cannot realistically take immediate action to eliminate utilities, maintenance and other activities required to operate buildings and laboratories that conduct federally funded research.

18. As a direct result of real and threatened federal cost-cutting in fundamental research and potential increased levies on universities, including this attempted reduction in F&A cost reimbursement rate by NSF, MIT is being forced to take immediate and contemporaneous action to reduce its financial exposure. The Institute is implementing operating budget reductions and curtailing its capital investments. At the Institute level, MIT is deferring capital projects, notably including research infrastructure and space renewals, lab equipment installations, ventilation air capacity improvements, and energy efficiency upgrades. MIT has also been forced to implement a hiring freeze across the Institute on almost all staff positions. In addition, MIT mandated internal units to cut their central budget allocations between 5 to 10 percent for this fiscal year. Among the possible ways these budget cuts will be implemented by internal units are: layoffs; limiting or deferring investment in research facilities; and scaling back other investments into the Institute. In light of this reduction in federal support for research funding, MIT also expects to enroll approximately 8% fewer students to its graduate research degree programs for the coming academic year—students who would have contributed to MIT's research activity and the future of U.S. science and innovation.

19. NSF's newly-imposed Rate Cap Policy will result in severe disruption to MIT's research enterprise in many ways. MIT will face serious challenges in maintaining the laboratories, computing resources, technical teams, and administrative support required for world-leading research. MIT will immediately be forced to consider which projects would need to be canceled or scaled back, with resulting reductions in work force. Inevitably, some projects would be halted midstream; equipment construction timelines would be delayed; training and career advancement opportunities missed; and key technical personnel—many with irreplaceable expertise—would be lost. The resulting damage, from disrupted data analysis to fractured collaborations, from reductions in research output to diminished opportunities for early-career scientists, could be irrecoverable, and would significantly undermine U.S. international scientific leadership. Critically, it would also disrupt the pipeline of students and postdoctoral researchers whose training in these programs equips them for leadership roles in high-tech industry, national labs, and academia—weakening the nation's capacity to innovate and undercutting U.S. economic and technological leadership for years to come.

20. One example of the critical scientific and technical work conducted at MIT is the Research Laboratory of Electronics ("RLE"). Founded in 1946, RLE is the successor to the renowned Radiation Laboratory, or "RadLab," which developed game-changing radar technology that had a decisive role in the Allied victory in World War II. RLE supports MIT's research efforts into crucial components of our nation's economic competitiveness, including electric power systems, microelectronics, optics, integrated photonics, and communications. RLE research also includes the development of quantum science and technology, quantum sensors, quantum-secure communication systems, and quantum computers. These technologies hold the promise to advance computing, sensing, and communications applications beyond the classical limits that



constrain conventional technologies. Cutting-edge electronics research and the related development of exotic new materials requires specialized shared infrastructure and services, the costs of which are partly reimbursed through indirect cost recovery. For instance, it is typically necessary to provide precise temperature and humidity control for laboratory spaces through operation of powerful air handlers, and also to maintain a robust safety infrastructure for work that may include toxic and hazardous precursors. RLE has numerous research proposals currently pending at NSF. These were submitted in reliance on the terms of NSF notices of funding opportunity that did not reference the Rate Cap Policy, and include projects such as:

- a. The development of new devices and systems specialized for new computational hardware to support AI at substantially lower energy cost, significantly expanding the scale and capacity of AI systems.
- b. The study of flat band electronic materials, which are thought to be fundamental to superconductivity. By tuning and characterizing the effect of flat band materials, RLE hopes to support the potential design of revolutionary new superconductors. The potential technological impact of this work would encompass energy distribution, electronics and computation applications.

21. As another example, the MIT Laboratory for Nuclear Science (“LNS”) advances fundamental discoveries in nuclear and particle physics—from the quantum structure of matter to the dynamics of the universe—and holds leadership roles in flagship projects funded by the NSF. This includes leadership roles in national and international physics projects, as well as in emerging fields such as quantum technology, artificial intelligence, and quantum sensing and computing. LNS has numerous research proposals currently pending at NSF that were submitted in reliance

on the terms of NSF notices of funding opportunity that did not reference the Rate Cap Policy. These include projects dependent upon shared infrastructure and services, such as:

- a. Projects that take advantage of a specialized computing facility housed at MIT for conducting particle accelerator experimentation of the types that have led to discoveries at the frontier of human knowledge on the fundamental structure of our universe. This computing facility was instrumental for MIT's leadership of the U.S. effort in the Higgs particle discovery at the Large Hadron Collider, which led to the 2012 Nobel Prize in Physics. Shared computing facility infrastructure and support includes power, cooling, and maintenance; network and cybersecurity protections; and systems administrators and facility engineers.
- b. Projects to support experimental physics programs developing novel quantum detectors and innovative neutrino/dark matter detection methods for nuclear and particle physics research. These projects require shared infrastructure and services, such as specialized laboratory space, utility support for power demands of cooling precision instrumentation, and environmental monitoring and safety.

22. As a third example, the MIT Computer Science and Artificial Intelligence Laboratory ("CSAIL") has played a foundational role in shaping the field of computer science and artificial intelligence, and its impact on the world. From the invention of RSA cryptography, which underpins modern secure communications, to the development of the first practical videophone, to the creation of the first quantum algorithm, to the founding and road-mapping of the field of artificial intelligence, CSAIL researchers have consistently redefined what is possible

with computing. Today, CSAIL continues to drive progress in areas like AI, human-computer interaction, quantum computing, computational biology, and more. Reducing NSF funding would have significant negative effects on economic competitiveness and national security by disrupting future advancements in computing and artificial intelligence. CSAIL has numerous research proposals currently pending at NSF that were submitted in reliance on the terms of NSF notices of funding opportunity that did not reference the Rate Cap Policy, and include projects such as:

- a. Developing energy-efficient AI, which is an area crucial for the U.S. to maintain its technological leadership in AI. The rapid expansion of AI applications has led to a significant increase in electricity consumption. Projections indicate that U.S. data centers could consume up to 12% of the nation's electricity by 2028, a substantial rise from current levels. This surge in energy demand would strain the existing power grid and pose cost challenges to businesses and the U.S. economy.
- b. Investigating ways to increase the reliability, security, and transparency of machine-generated code. Projects like this seek to facilitate more trustworthy AI tools, which could support effective integration of AI into critical sectors such as defense, healthcare, and infrastructure.
- c. Researching cryptographic tools for more secure data processing and sharing, which is vital for sectors like healthcare, finance, and defense. By prioritizing the development and implementation of privacy-preserving cryptographic solutions, the U.S. can foster trust in digital systems, support compliance with data protection regulations, and promote innovation in privacy-centric technologies.

23. A fourth example is the MIT Kavli Institute for Astrophysics and Space Research (“MKI”). Founded during the U.S. space program’s infancy, MKI has grown over six decades into a world-leading center advancing scientific understanding of our universe’s underlying structure, and Earth’s place within it. Research conducted at MKI strengthens MIT’s partnerships with U.S. manufacturers in advanced optics, photonics, and semiconductor sensor fabrication. NSF funding enables much of MKI’s most impactful research, which often requires the operation of highly specialized laboratories and equipment. Indirect cost reimbursement from NSF supports the people working in these labs, for instance, helping ensure safety concerning high-vacuum systems, chemicals, and high-power lasers. These indirect cost reimbursements also support real and significant costs of research compliance, which for MKI’s spaceflight and sensor programs include security of export-controlled articles legally regulated by the U.S. Departments of State (e.g. International Traffic in Arms Regulations) and Commerce (e.g. Export Administration Regulations). In the face of the Rate Cap Policy, MKI may be unable to propose for future NSF projects. The projects most heavily impacted are likely to be large, high-visibility initiatives that demonstrate U.S. technical excellence, and require long-term strategic planning and staffing continuity. Examples of MKI’s pending proposals to NSF include:

- a. Continuing research involving the Laser Interferometer Gravitational-wave Observatory (“LIGO”) Laboratory, a collaboration between MIT and Caltech which opened a new era in astrophysics with the first direct detection of gravitational waves in 2015 from colliding black holes. This discovery confirmed a century-old prediction of Einstein's general theory of relativity, an achievement recognized with the 2017 Nobel Prize in Physics.

- b. At NSF's request, leading the conceptual design of the next-generation observatory Cosmic Explorer, including coordinating the work of twelve U.S. institutions and more international partners toward a key 2028 review.
- c. Other projects encompassing fundamental research on how stars and galaxies emerged from primordial matter fluctuations; how black holes grow and evolve; and the nature of dark matter, dark energy, and the oldest stars in the Milky Way. Much of this work involves computer simulations of the universe to test theories of fundamental physics and the evolution of matter over cosmic time. These projects cannot be conducted without access to MKI's high-performance computing clusters that are centrally supported at MIT via indirect cost recovery.

24. As the above examples demonstrate, NSF cuts to F&A cost reimbursement would degrade MIT's advanced research capacity as a whole, because they would limit the Institute's ability to invest in its core research enterprise at a time when the United States wants its scientific and technology research at its strongest to compete globally. A reduction in the indirect cost rate would irreparably harm MIT's ability to deliver science and technology essential to U.S. competitiveness and security.

25. Research universities like MIT are critical components of innovation economies in their local geographies. MIT is at the center of Kendall Square in Cambridge, Massachusetts. Kendall Square houses an array of life sciences, energy, AI and other advanced technology firms, start-ups, industry, and venture capital firms. MIT and Kendall Square are also closely linked to area universities and hospitals, part of a thriving regional ecosystem of discovery, invention, and

economic impact that materially contributes to the improvement of economic prosperity, national security, human health and scientific discoveries.

26. MIT employs nearly 14,000 Massachusetts residents, including more than 2,300 Cambridge residents. Spending from students, staff, and faculty supports the local economy. Tourism dollars tied to MIT flow to the Cambridge and Massachusetts economies. MIT is also the longtime top taxpayer in the City of Cambridge because the Institute has historically chosen to invest in its home municipality. 2024 tax payments related to MIT real estate holdings totaled \$96.7 million, which represents 16.8% of the Cambridge tax levy.

27. Relatedly, MIT's federally funded research also includes important research connections with the Commonwealth of Massachusetts. For example, MIT has multiple subawards from University of Massachusetts system schools under NSF awards in areas such as data science, quantum information, and high-tech manufacturing.

28. A loss of federal funding would significantly constrain MIT's ability to invest in the people and facilities that make up its research enterprise. Over time, this would lead to less investment in Massachusetts; have negative cascading impacts for MIT's research partners in academia, defense, medicine, and industry; and undermine economic growth across both Massachusetts and the country.

29. NSF investments in university research produce vital innovations, and even create new industries, that contribute to economic competitiveness, national security, health, and improved quality of life for all Americans. The federal government funds more than half of all U.S. research and development performed by institutions of higher education,<sup>2</sup> and this funding

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<sup>2</sup> "Academic Research and Development," National Science Board (Oct. 5, 2023), <https://nces.nsf.gov/pubs/nsb202326/executive-summary>.

is vital to producing the inventions and other intellectual property on which innovative businesses are launched and grow.

30. Scaling back the research capacity of U.S. universities, including MIT, would slow scientific progress and have significant economic consequences. Not only would the global community lose ground toward cures, new technologies, and other innovation, but less research in the United States would also threaten to impede progress on American scientific, security, technical, and economic priorities; result in fewer jobs and slower economic growth; cede to other nations American companies' competitive advantage as a catalyst of new industries; and weaken long-term U.S. competitiveness against global adversaries, particularly as countries like China continue to boost their research funding and research infrastructure.

31. MIT cannot simply make up an increased gap in annual federal research funding by withdrawing monies from its endowment. MIT's endowment is principally made up of individual donations made for restricted, specific purposes and invested for lasting impact. MIT is legally required to use endowment returns consistent with the donors' wishes and the purposes for which each endowment fund was established. MIT cannot reallocate these funds to cover a loss of federal reimbursements for research costs. Moreover, MIT's endowment is a resource intended to provide support for the Institute's costs in perpetuity. The Institute cannot responsibly liquidate the endowment without jeopardizing that function, draining the Institute of resources needed to sustain cutting-edge research capacity for future generations.

32. In addition, MIT's endowment supports approximately 50% of the total cost of undergraduate tuition: MIT's financial aid to undergraduates totaled \$159 million last year, including \$136 million to cover tuition and \$23 million toward students' living expenses. As a result of MIT's financial aid policies, last year, almost 40% of undergraduates attended MIT

tuition-free and 87% of undergraduates graduated debt-free. Similarly, MIT funds 62% of the tuition for the roughly 7,000 graduate students at the Institute through fellowships, subsidies, and other resources. NSF's attempted reduction in F&A rate will make such financial aid levels more difficult to maintain in the long-term and lead to increased financial burden for students and families.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this day, May 8, 2025, at Cambridge, Massachusetts.

/s/ Ian A. Waitz

Ian A. Waitz